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BEFORE THE

Federal Communications Commission

WASHINGTON, D.C. 20554

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In the Matter of	)	
	)	
Amendment of the Commission's Rules to Establish Rules and Policies Pertaining to a Mobile-Satellite Service in the 1610-1626.5/ 2483.5-2500 MHz Frequency Bands	)	CC Docket No. 92-166

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To: The Commission

PETITION OF TRW INC. FOR FURTHER RECONSIDERATION

TRW Inc. ("TRW"), by its attorneys and pursuant to Section 1.429 of the Commission's rules, hereby petitions the Commission to reconsider one element of its recent memorandum opinion and order in the above-captioned proceeding.[1/] Specifically, TRW urges the Commission to reconsider its determination that the so-called "interim frequency plan" it adopted in October 1994 for the new nongeostationary mobile satellite service above 1 GHz ("NGSO/MSS") was not needed after all, and would therefore be abolished before it ever went into operation.[2/] TRW shows below that the circumstances that motivated the Commission to adopt the "interim plan" initially have not changed, and

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1/ Amendment of the Commission's Rules to Establish Rules and Policies Pertaining to a Mobile-Satellite Service in the 1610-1626.5/2483.5-2500 MHz Frequency Band, FCC 96-54 (released February 15, 1996) ("Big LEO MO&O").

2/ Id., slip op. at 5 (reconsidering Amendment of the Commission's Rules to Establish Rules and Policies Pertaining to a Mobile-Satellite Service in the 1610-1626.5/2483.5-2500 MHz Frequency Band, 9 FCC Rcd 5936 (1994) ("Big LEO Report and Order").

may not ever change. Until it is confirmed that the NGSO/MSS systems operating in the 1610-1626.5 MHz band would not have to protect the co-frequency and adjacent frequency operations of the Russian Global Navigation Satellite System ("GLONASS") to the level currently demanded by the Russian Administration, the requirement for the interim plan persists, and equity demands that it remain in place.

In the Big LEO Report and Order, the Commission recognized that if GLONASS were to be used in conjunction with the U.S. Global Positioning System ("GPS") to provide aircraft precision approach and terminal communications as part of the global navigation satellite system ("GNSS"), a use that was and still is being contemplated by the United States Government, the strong potential for NGSO/MSS interference into GLONASS mobile receivers may preclude co-frequency operation of NGSO MSS transmitters. Despite the potential for a serious interference situation, however, the Commission was confident that the GLONASS frequency plan would be adjusted in such a fashion that there would be no consequent restrictions on NGSO/MSS. It simply did not know when the full transition would occur.[3/]

Citing the continuing uncertainties affecting the GLONASS situation — such as when the transition would occur and the extent to which NGSO/MSS operations in the

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3/ Big LEO Report and Order, 9 FCC Rcd at 5956-5957.

lower portion of the 1610-1626.5 MHz band would be subject to in-band and/or out-of-band emission restrictions due to the obligation to protect GLONASS operations — the Commission concluded that either 2 or 4 megahertz of the 16.5 megahertz NGSO/MSS band at 1610-1626.5 MHz may not be available for initial operations in the United States.[4/] In an attempt to ensure that the burden of losing access to this spectrum was apportioned equitably between the NGSO/MSS systems employing code division multiple access techniques ("CDMA") that would use the lower portion of the band and the frequency division multiple access/time division multiple access ("FDMA/TDMA") NGSO/MSS system that would use the upper portion of the band, the Commission adopted a transitional band segmentation plan (the "Interim Plan").[5/] Despite the uncertainties as to the Interim Plan's duration, the Commission remained "optimistic that

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4/ Id. at 5957-5958.

5/ Whereas the Commission's band segmentation plan provided the CDMA systems with the right to operate across the 1610-1621.35 MHz band, with the FDMA/TDMA system getting the right to operate from 1621.35-1626.5 MHz, the Interim Plan specified that "until the entire 1610-1626.5 MHz band is available for MSS operations, we will provide CDMA operators with the option of operating in the 1621.35-1622.60 MHz band segment." Id. at 5959.

these measures will not be necessary or, if they are, that the effect on the MSS industry will not be significant given their short term nature . . . ."[6/]

TRW and others were supportive of the Commission's Interim Plan during the period immediately following the adoption of the Big LEO Report and Order,[7/] while others — namely Motorola Satellite Communications, Inc. ("Motorola") and Loral/Qualcomm Partnership, L.P. ("LQP") — argued on reconsideration that the Commission acted prematurely in adopting the Interim Plan. As the Commission recites in the Big LEO MO&O, LQP contended that GLONASS operations should not be protected at all above 1606 MHz, and that an interim plan need only be adopted after protection criteria are developed for GLONASS receivers by the responsible advisory committee to the Federal Aviation Administration.[8/] Motorola made arguments similar to those advanced by LQP, and added that the sharing plan disproportionately affected its FDMA/TDMA system.[9/]

6/ Id.

7/ See, e.g., Petition of TRW Inc. for Partial Reconsideration and Clarification, CC Docket No. 92-166 (filed November 21, 1994).

8/ Big LEO MO&O, FCC 96-54, slip op. at 5 & n.7.

9/ Id. at 5.

The Commission, noting that GLONASS has not been incorporated into or accepted as part of the GNSS either domestically or by the international governing body of civil aviation, concluded "that the interim sharing plan is unnecessary to protect GLONASS operations in the United States at this time."[10/] It stated that "given the substantial uncertainty as to whether protection of GLONASS will ever be necessary in any configuration other than its final configuration at frequencies below 1606 MHz, . . . no interim protection of GLONASS is necessary in the United States."[11/]

TRW strongly urges the Commission to reverse its determination that the Interim Plan is no longer necessary. Absolutely nothing has changed since November 1994. The Commission has not stated that GLONASS will only be protected in the U.S. in its final frequency configuration. All of the uncertainties noted by the Commission in the Big LEO Report and Order as to when, if ever, the transition in GLONASS operations would occur remain, and the out-of-band emission restrictions to be imposed are no closer

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10/ Id.

11/ Id. (emphasis added). The only concession the Commission made was to state that if other administrations require in any ITU frequency coordination of the NGSO/MSS systems with GLONASS that GLONASS be protected in a frequency configuration other than that expected to be adopted in the United States, the Commission's position in such a coordination "will, like the interim plan, distribute the burden of that protection on all of the Big LEO systems." Id. at 5-6.

to being resolved than they were 18 months ago. No coordination has yet been concluded with the Russian Federation as to the use of GLONASS; no determination has been made within the United States as to whether GLONASS will be used for precision landing operations in the United States;[12/] and the out-of-band protection requirements for GLONASS even without precision landing operations has not been determined by the FAA's advisory committee.

In short, the Commission correctly determined in its Big LEO Report and Order that the then-extant uncertainties required the implementation of an Interim Plan for NGSO/MSS operations in the 1610-1626.5 MHz band. It was arbitrary for the Commission to reverse that determination in the Big LEO MO&O, and the earlier decision should be reimposed.[13/]

12/ An affirmative decision on this matter would likely lead to a requirement that NGSO/MSS systems using CDMA techniques protect GLONASS receivers to 1608.75 MHz — and lead to a guardband that would preclude NGSO/MSS operations to at least 1612 MHz for the foreseeable future. The Interim Plan would clearly be required in this instance.

13/ To be sure, TRW agrees with LQP's aspiration that GLONASS need not be protected worldwide above 1606 MHz. TRW does not believe, however, that such a determination has yet been made for the United States, and, as explained infra, it is unsatisfied with a piecemeal approach to global implementation.

TRW is also troubled by the Commission's apparent willingness to deal with other administrations' GLONASS policies on an ad hoc basis.[14/] For a global system such as the one TRW is authorized to establish in the 1610-1626.5 MHz and 2483.5-2500 MHz bands, having to deal with the vagaries of a country-by-country approach to the GLONASS issue presents complex and perhaps insurmountable logistical obstacles. Attempting to accommodate one GLONASS situation in, for example, Brazil, while satisfying a different scenario in neighboring Argentina, could also pose unsolvable technical problems for the system's managers. The Commission can — and should — avoid this fractured approach by reinstituting its Interim Plan.

As a final matter, TRW wishes to dispel any question that the Interim Plan disproportionately affects the single FDMA/TDMA system. There are up to four CDMA NGSO/MSS systems that could end up sharing the 1610-1621.35 MHz band under the Commission's permanent segmentation solution — for a per-system spectrum use of 2.8375 MHz in the 1610-1626.5 MHz band, as compared with 5.25 MHz of exclusive spectrum, unshared with either another NGSO/MSS system or with the radio astronomy service, for the FDMA/TDMA system. Under the Interim Plan, the FDMA/TDMA system would be restricted to 3.9 MHz (at 1622.6-1626.5 MHz), while the four CDMA

14/ See Big LEO MO&O, FCC 96-54, slip op. at 5-6.

systems would each average 2.65 MHz of spectrum on a per-system average basis. The claim of disproportionate impact was and remains without merit, irrespective of whatever minor adjustments individual NGSO/MSS systems may have made to their channelization plans in order to maximize their efficient use of the spectrum available to them.

CONCLUSION

In sum, the Commission had no rational basis for changing its original determination that an interim band segmentation plan was required for the 1610-1626.5 MHz band; if anything, the uncertainties that led to the imposition of the original plan have become more acute in the intervening 18 months. On the other hand, the proposal to treat other administrations' GLONASS plans on an ad hoc basis is itself rife with

uncertainties and poses myriad implementation difficulties upon the CDMA NGSO/MSS operators who are endeavoring to establish global systems. The Commission should, therefore, reinstitute its Interim Plan.

Respectfully submitted,

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April 11, 1996

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CERTIFICATE OF SERVICE

I, Katharine B. Squalls, hereby certify that a true and correct copy of the foregoing "Petition for Further Reconsideration" was mailed, first-class postage prepaid, this llth day of April, 1996 to the following:

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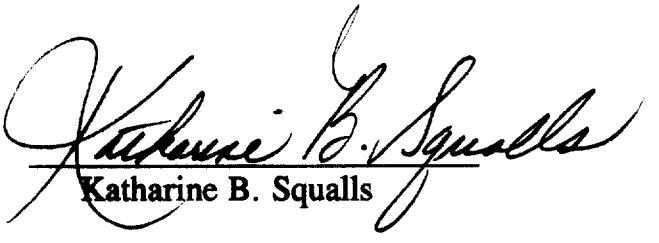

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